Dallas Area Rocket Society ("DARS")

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A Dallas Area Rocket Society Production

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A Newsletter of the Dallas Area Rocket Society

DARS
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Member - National Association of Rocketry ("NAR").

Special points of interest:

- The Squirrel Works
- Check out THE PAYLOAD BAY to find new members.
- TARC 2004 is in THE CENTER OF PRESSURE.
- Gary Briggs sent in a nice article that provides the requirements for range duty. Very nice!
- George Sprague provides a very informative article on para-streamers.

Inside this issue:

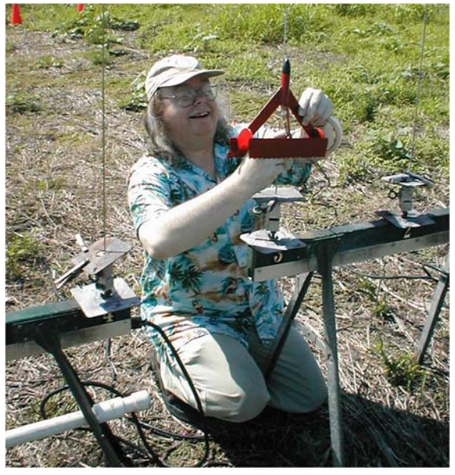
LETTERS TO THE EDITOR—None, although I received a lot of favorable comments about the nice print job by Kinko's at the July 12 launch and at the club meeting. Thanks Kinko's!
Also, I'm trying to save space so I can fit the newsletter onto 8 pages. Over that goes into major extra postage!

Dallas Area Rocket Society ("DARS")

The Squirrel Works

Wow! Don Magness, DARS member, is starting his own rocket company, The Squirrel Works. I beta tested one of his kits for him. It's very close to a Centuri X-24 Bug clone and called X-24 Bug—imagine that. Very nice kit, easy to build and superb kit graphics. EMRR has a review of the kit (http://www.rocketreviews.com/reviews/kits/sq_x-24_bug.html) by Rob Holdridge. In the review, Rob notes that "...this kit wouldn't look out of place in any hobby shop displayed along side Estes or Quest kits." I would even go one step farther and say it would look better! He's also making a few other kits to come out real soon.

He brought a couple out to fly at the Rockwall launch. One's called Red Baron, which is very similar to the Flying Jenny, an old Estes Design of the Month contest winner. A very cool boost glider! You can view a close up picture of it in the Rockwall launch article. Everyone was impressed with the flights. He and I sat together under my canopy at the launch, and he had it sitting on the table alongside some of the rockets I had—a Centuri Laser-X clone, an Estes Alien Space Probe, Star Speeder and a couple of other cool rockets. Most people noticed the Red Baron first. Unbelievable! He also has a couple of other rockets coming out soon, one of which was also flown at the Rockwall launch - a very nice two-stage rocket that will remind you of an upscaled Beta, but it's not. Don plans to call this one Cloud Warrior. The de-cals have a Native American motif. Don flew it twice, and it staged beauti-fully both times.



Above—Don Magness prepares the Red Baron for launch. Photo by James Gartrell.

Don hopes to have his website up in October to begin selling the kits. I for one am anxious for the arrivals. Based upon our conversations, the kits will all be top quality, such as laser cut fins, and reasonably priced. He also said he may list a few on eBay for the exposure, so keep an eye out between now and October.

Left—Cloud Warrior captured at the 8/2 meeting.
Right—Red Baron kit. Nice!
Photos by James Gartrell.

THE CENTER OF PRESSURE

Buzz McDermott put the following together to alert club members to the upcoming TARC event. I thought it was worthy of putting in the CP. Don't pass up this excellent opportunity to "pay forward." (Editor)

TARC 2004 is about to start…
By Buzz McDermott

The Team America Rocketry Challenge (**TARC**) national precision altitude/egg lofting competition is going to be repeated for 2004. This year was such a success that the NAR and AIA are expecting **even more** teams to enter than for 2003. The contest is being completely opened up to middle schools (without having to have a sponsoring high school) in addition to high schools. This seems a reasonable idea in light of the fact that middle school students took the top two places at the 2003 flyoffs!

What the NAR needs are more volunteers to act as potential team 'mentors'. What does a mentor do? Anything from all to none of the following:

- Go to a school and give a TARC-oriented presentation on model rocketry and talk about the TARC event itself
- Help a school team build some practice rockets
- Answer general questions about model rocketry, egg lofting, clustering, staging, and altitude prediction (but you don't answer any specific questions about a teams rocket/design); this can be done via email exchange, phone conversations, snail mail, or direct visits with team members
- Help teams at DARS launches: show how to hook up a cluster, how to mount an altimeter, how to gap stage vs direct stage, how to electronic stage composites.... (all that 'flying model rockets' stuff :-)

I put together a bunch of materials, including a TARC-oriented PowerPoint presentation on model rocketry, for last year's event. It's available to any who would like to use it.

Now, what am →**I**← asking for? I would like DARS members to volunteer to act as 'official NAR mentors' or 'informal DARS mentors'. For the first, you notify Trip Barber (NAR VP) that you would like to be added to the national list of mentors posted on the NAR web site, then also contact me and let me add you to information I am passing out at area middle and high schools. For the latter, just notify me. Here is the link to a 2004 TARC Flyer: http://www.rocketcontest.org/. I would like to add a second page [TARC page to the DARS website—Editor] that shows DARS launch sites, has our launch schedule, and gives email and phone numbers for area mentor volunteers. Your email and phone number would not be posted to the DARS website without your prior consent.

The contest officially starts at the beginning of September and runs through March of next year. The finals will be held in May, 2004. If it goes the same as last year, schools will be ready for visits in the October-November or January time frames and need technical help all through the first quarter of 2004.

So, if you would be willing to act as a mentor for the 2004 Team America Rocketry competition, please contact me with the following information:

1. Name
2. Phone Number
3. Email address
4. Part of DFW area where you live and areas you would go to for a presentation
5. Permission (or not) to post the above info onto a TARC page on the DARS website

If you are willing to act as an 'official NAR volunteer' then you need to email Trip Barber (73121.75@compuserv.com) with #1-3 from above and also give a brief summary of your 'qualifications' to be a mentor and why you want to volunteer (and I do mean it can be brief).

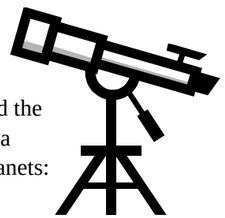
Even experienced modeler, Melissa McDermott, appreciates the additional experience of Dave Schaefer, who was TARC mentor for Richardson High School during the 2003 event. Photo by James Gartrell.

DID YOU KNOW?

The answers to last issue's word search puzzle to name the nine planets in the Earth's solar system are circled. Below is the list of planets. After each planet, in parentheses, I have provided the beginning and ending column/row coordinates of the planet—for example, the planet Jupiter starts in the top left corner, column A of row 1, or coordinate A1, and ends in the bottom left corner, column A of row 7, or coordinate A7:

	A	B	C	D	E	F	G	H
1	J	X	S	U	N	E	V	E
2	U	R	U	A	N	Y	A	O
3	P	A	N	L	T	R	W	E
4	I	Z	A	O	T	U	L	P
5	T	J	R	H	M	A	R	S
6	E	N	U	T	P	E	N	N
7	R	Y	R	U	C	R	E	M

Mercury (H7, B7) Venus (G1, C1) Earth (H1, D5)
Mars (E5, H5) Jupiter (A1, A7) Saturn (C1, H6)
Uranus (C6, C1) Neptune (G6, A6) Pluto (H4, D4)



Send me an email and let me know what your favorite planet is, and why. I'll publish the results of the survey in the next issue.

Much like the planets of our solar system revolve around the sun, our solar system revolves around the center of our galaxy, the Milky Way. The name of our sun is Sol, which is Latin for sun, and it is a relatively small star. Here's a website you can visit to find out more interesting facts about our planets: http://www.princeton.edu/~willman/planetary_systems/Sol/

THE PAYLOAD BAY

Dave Schulz certified Level 3 at LDRS! Congratulations, Dave!!

More new members, too! Look them up at the next meeting and say hello!

- Jeffrey, Jeff, and Mari Sullivan
- Mike Tomerlin and family - Dana, Brandon and Lucas
- Andres Roig
- Chris Hood
- Ray Burton

DARS

The Dallas Area Rocket Society is a non-profit chartered section of the National Association of Rocketry ("NAR"). Its purpose is to promote the hobby of consumer rocketry in the Dallas/Ft. Worth metropolitan area.

Membership in DARS is open to all interested persons. Membership in NAR is encouraged, but not required. Annual dues are $10.00 for individuals and $15.00 for families. The entire family, including children, are welcomed to the meetings.

The club meets on the first Saturday of each month at 1:00 p.m.

Meetings are held in Plano, TX at:

Plano Late Night Bingo
1805 Ave K (18th and K St.)
Plano, TX 75074

Exit off Hwy 75 to East Plano Parkway (just north of George Bush Turnpike—Hwy 190) and go east, turn left on K St., and turn right into the shopping center just north of 18th St.

Stay connected! All of us will reach greater heights with your attendance at the club meetings.

PARA-STREAMERS

By George “The Other” Sprague

So, you’ve just finished your mid-powered bird. It weighs around 13 ounces. Your kit came with an 18” parachute. Hmm. How far will you have to walk when you send that puppy up on a G40 with a bit of wind? Well, I’ve used an idea I found in an old NAR technical report to avoid those long, tedious walks: the para-streamer.

The basic concept is to attach a small parachute at the end of a streamer. This will accomplish several things. You get better visibility in the air, better visibility on the ground, and a faster yet still soft rate of descent that will bring your rocket closer to the launch pad than with a parachute.

Here is my version of this neat concept. I use it on my Loc/Precision Lil’ Nuke, which weighs around fourteen ounces, and is 2.5 inches in diameter. I have used this system instead of a parachute and have brought my rocket down within several hundred feet of the launch pad, even at McGregor!

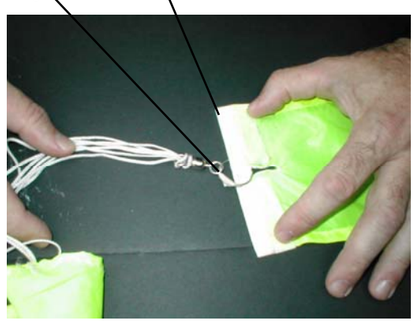
The streamer, parachute and swivel are from Top Flight Recovery. Their products are very strong, reasonably priced, and they will work with you on custom orders. And they have a myriad of very bright colors in rip-stop nylon. I’ve used their products on everything from model rockets and wait until you see the six foot ‘chute they custom made for one of my high power-will fly on a K-975 rockets!

Ok, the streamer is 4 inches wide by 40 inches long. One end has a strong loop sewn in for attachment to the rocket. I requested a 1-inch button hole, centered and about ½ inch just below the other end. I reinforce both ends with masking tape so the ends are a bit stiff. The parachute is a 12 inch round ‘chute. TFR also sells X-form ‘chutes. The ‘chute is attached via a swivel to a metal ring that runs through the button hole. I use the ring found in the disposable key holders used by car dealers and the like. They may seem flimsy, but are strong enough. You may try using two, or any other ring found at craft stores. I slip the end of the swivel onto the ring, then tape the ring so that the force of ejection doesn’t open the ring causing the ‘chute to tear away. I found this out the hard way. You could also tie it on with kevlar cord.

Now, how to pack this thing! I attach the streamer about 1/3 of the way down the shock strap by running the strap through the loop in the streamer, creating another loop and pulling the nose cone through this. The picture should help you visualize this. Then, fold the streamer as follows: fold the streamer in half, leaving the ‘chute out. Then, at the fold, begin folding in half and repeat until you have a tight package. Fold the ‘chute with the lines inside. This helps prevent tangling. When stuffing into the body tube, I place a few squares of recovery wadding between the streamer and the ‘chute to further prevent tangling. The streamer goes in first with the ‘chute on top. Make sure they are close to the top of the body tube so they eject quickly.

Look closely at the pictures and you’ll get the idea. And that’s it! I have even used a 6 X 60 inch streamer with 15 inch ‘chute on my PML Extreme Altitude Cirrus Dart, weighing 23 ounces which I have flown to 7,000 + feet on an I-211. It landed around 6-700 feet away. I did use a Walston retrieval system so I could locate the rocket, as the darn thing flew so fast and so high I never saw it come down! But I got it back! Have fun and “Aim for the sky and hope you don’t miss”.

Below—Parachute/streamer attachment. Note the masking tape reinforcement at the end of the streamer and around the ring.



Photos by James Gartrell.

Right—Parastreamer/ shock cord attachment. Note the shock cord loop passing through the parastreamer loop, then the nose cone is inserted through the shock cord loop. Holding the parastreamer and pulling the nose cone will then tighten the shock cord into an easily-removed knot around the parastreamer loop.

Rockwall Launch, July 12

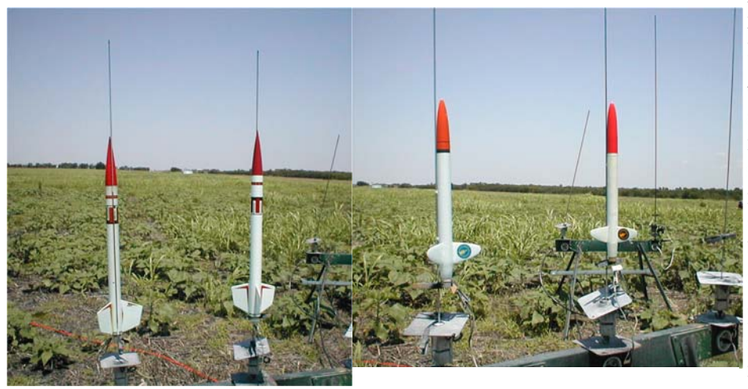
The turnout was pretty good for the Rockwall launch, despite the heat. Buzz McDermott, Don Magness, Greg, a guy with the Boy Scouts, and I set up the pads at the Southeast corner of the field about 9:30 am. The sky was clear with winds coming out of the Southeast about 10-15 mph, and the field was in great shape. Lots of volunteers were on hand for range duties. Buzz was RSO for the morning, then Dave McGuire handled the afternoon and Tim Sapp finished up the day. Thanks guys!

Rockets began to launch immediately. Besides a whole bunch of model rockets, a lot of rockets in the F&G range were flown, and even a few H motors made it. I really enjoy the Rockwall launches. It seems the smaller field brings out all the unusual rockets. There were X-24 Bugs, Sprints, an old Estes Interceptor, a S.W.A.T, a Space Racer, a Mean Machine, a marathon launch of a Snitch and several Sputniks compliments of John Bittner, a Der Big Red Max, a couple of Cherokee-D’s, an old Alien Space Probe, a Ranger, an Odyssey, Mark Sims’ flying Frisbee of death, and many, many more.

Gary Briggs loads up what looks to be a small unfinished V-2 while his son, Josh, listens to Buzz. Mark Sims awaits the launch of his Frisbee, and my Alien Space Probe is ready to search out all alien life forms. Photo by James Gartrell

Then you also get to see plenty of the bigger rockets flying on F-H motors. Sure, it isn’t like an M motor at Windom, but it’s still cool watching these at the Rockwall field. They have to keep them flying pretty low due to the size of the field, but you get all the noise, smoke and fire of the bigger motors—well almost. Woowee! Pelham Swift delighted us with several of those, along with other spectacular flights by Doug Sams, Dave McGuire, Michael Wilkins, Buzz, and several others.

Buzz’ rocket table was spectacular as usual, also. He brought out a number of his older rockets and some clones. He had a beautiful Centuri Payloader (see Payload Bay picture from the last issue) which I failed to identify—Buzz gave me a hard time about that one. ;-) We drag-raced our Sprints on B-6 motors. It was a spectacular race going up, as the two rockets crossed within a foot of one another about 50 feet up off the pad. Unfortunately, my rubber band shock cord didn’t survive the ejection charge.



Left—Cherokee-D’s, ready to drag. Don’s on the right and mine on the left.

Right—Sprints, ready to drag. Buzz’ on the right and mine on the left.

Photos by James Gartrell.

Don Magness and I also participated in a couple of other drag races. We flew one race with our X-24 Bugs and another with our Cherokee-D’s. I didn’t fare too well with the X-24, but the Cherokee-D

(Continued on page 4)

(Continued from page 3)

race was awesome. Both rockets zoomed off the pad together and flew almost parallel to one another all the way to the top. Then, they peeled off right at the top, one going to the left and the other to the right. That was a beautiful sight!

Don also brought one of his newest rockets, the Red Baron, he plans to begin selling soon. It was sitting on my table most of the day, and boy did it get the attention. The bi-plane design is very similar to the Flying Jenny, one of the Design of the Month rockets submitted in one of the old Estes contests. Everyone enjoyed its flight, too.

Doug Sams helped a couple of family friends, Nicholas Carlough and Chris Booth, build their first large rocket, the Pink Blob, which they brought to Rockwall for its maiden flight. Doug filled me in on the adventure. They started the rocket late last year with some parts the guys picked up from Giant Leap at an earlier launch, a salvaged nose cone from one of Doug's projects, and a few other parts from here and there. They finished up in time for NTHP, which was canceled, then another few missed or canceled launches, so everyone was anxious to get that hot pink body and black nose into the air. Finally, the time had come. Fitted with a 29mm motor mount, they initially were going to put it up on a G motor, but Tim Sapp and Doug Schaefer pooled together and came up with the right combo to christen its debut, an H165 redline motor and casing. Oh yeah! It was a fantastic flight. All the work, the waiting, the anticipation, all came together in one spectacularly perfect flight. Doug said he and the boys talked about the flight (and the next project ;-) all the way home. Congratulations, guys!

It was hot, and there were a couple of mishaps, too, such as Dave McGuire's dance with one of John Bittner's Sputniks and Pelham Swift's shovel recovery, but it was a great day.

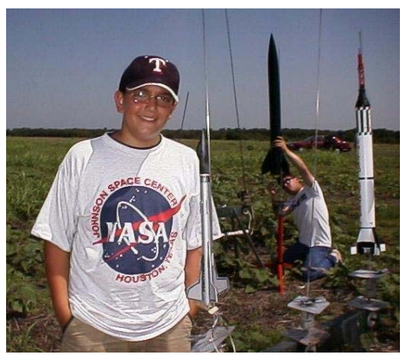
Don Magness' Red Baron.
Photo by James Gartrell.

Now there's an excellent pair of rockets—Buzz McDermott's Estes Ranger and someone's Estes Odyssey. Very cool!!
Photo by Buzz McDermott.

Doug Sams poses with Chris Booth, left, and Nick Carlough, right, and the Pink Blob.
Photo by James Gartrell

Right—I think that's one of Pelham Swift's flights. Wow!!
Below—Michael Wilkins sends one up on an H motor, I believe.

Photos by Brad Hassler.



Chris Hassler with his Space Racer in the foreground, Michael Wilkins setting up in the background to wow us with a spectacular flight (see flight picture at far left), and I believe that's Gary Briggs' Mercury Redstone ready for liftoff on one of a couple of really nice flights. This photo is an excellent example of the variety of rockets launched.

Photo by Brad Hassler.

Range Duty, Set Up, and Tear Down

By Gary Briggs

(Editor's note: Gary originally wrote this article to be included in the "Did You Know?" section of the newsletter. However, it's a great article, so I decided it was deserving of its own space. ;-)

Range duty at a DARS launch is a critically important volunteer activity. Without volunteer support of these functions launches cannot occur. And without launches rocketry just isn't as much fun, now is it? We also need to keep in mind that with many hands supporting these functions we can make the tasks smaller, shorter, and easier, giving everyone more time to fly.

Some of you may be saying to yourself, "Hey, I'm relatively new to organized launches and I am not really sure what all the functions are, and what certifications I may need to participate". Well a new document has just been loaded up to the DARS website to answer your questions (hopefully! Editor). It's called Range Duty Assignments at DARS High Power Launches. Although its stated focus is high power launches, many of the same positions are required at model, contest, and LMR launches. A few of the highlights are as follows:

- Only the Launch Safety Officer (LSO), the Range Safety Officer (RSO), and the Safety Check-In Officer (SCO) are required to have high power certifications.
- No certifications are required for the Launch Control Officer (LCO) although it is preferred that this individual be a senior NAR or Tripoli member.
- No certifications are required for the Pad Manager (PM) position. This one is all about time management and organization around loading up the launch pads.
- The registration desk needs to be manned throughout the launch so that new arrivals can register to fly. It provides a great vantage point up close to the action and almost always comes with shade.
- Range set up and tear down are always important ways to help out. They require no certification and are generally more of a team activity with the goal of getting the launch started or getting it wrapped up.

A spotter's guide to the positions looks like this:

- Launch Director – The person responsible for coordinating things like on-site vendors (food and rockets), making the call on field conditions, getting the gear to the launch and back home again (don't forget the port-a-potties), and the one asking for volunteers to support the launch. Please help them out!
- Launch Safety Officer – Per DARS by laws our club VP is the de-facto LSO and the final authority on all safety of flight issues. They are responsible for keeping our hobby's safety record error free and are the person responsible for the flight waiver at high power launches. If the VP is not at the launch or needs to leave for any reason, they are responsible for ensuring a suitable substitute is left in charge.
- Range Safety Officer – This is the person on the microphone checking the skies, counting 'em down, telling you to watch out when things go ballistic, and letting you know when the range is clear to recover.
- Launch Control Officer – This is the RSO's silent partner who does most of the hard work of ensuring the right pads are armed and selected and the buttons are appropriately pushed.
- Safety Check-In Officer – The person blocking your progress to the pads to ensure that your rocket is safe to fly. They check to be sure your CG and CP are appropriately arranged, your fins are staying on, your motor is staying in, your nose cone is not too loose, and they are also responsible for asking that all important question: "Did you put BP in the ejection well?"
- Pad Manager – This is the person asking you whether you need a rod or a rail and letting you know which pad to go to.

The bottom 4 positions are the ones we run in shifts during the launch. Check out the document online at www.dars.org, and please volunteer to help out. DARS can only fly high with your support!

Left—Rags performing SCO duties (no shade :-) while Chuck Cummins manages a smile holding up the rear of his Big Red Rocket.

Right—The Pad Manager has obviously failed at the duties, allowing a horde of monkeys to the pads. ;-) Photos by James Gartrell